

METHOD OF FORMING A VIA CONTACT STRUCTURE USING A DUAL DAMASCENE TECHNIQUE

ABSTRACT OF THE DISCLOSURE

5 A method of forming a via contact structure using a dual damascene technique is provided. The method includes forming a lower interconnection line on a semiconductor substrate and sequentially forming an inter-metal dielectric layer and a hard mask layer on the semiconductor substrate having the lower interconnection line. The hard mask layer and the inter-metal dielectric layer are
10 successivley patterned to form a via hole that exposes the lower interconnnection line. A sacrificial layer filling the via hole is formed on the hard mask layer. The sacrificial layer and the hard mask layer are patterned to form a first sacrificial layer pattern having an opening that crosses over the via hole and a second sacrificial layer pattern that remains in the via hole and to simultaneously form a
15 hard mask pattern underneath the first sacrificial layer pattern. The inter-metal dielectric layer is partially etched using the hard mask pattern as an etching mask, thereby forming a trench in the inter-metal dielectric layer. The second sacrificial layer pattern is selectively removed to expose the the lower interconnection line.